

Amendments to the Specification:

Please amend paragraph [0028] as follows:

[0028] As illustrated in drawing FIGS. 1 and 2, an exemplary wafer saw 10 to be used with the present invention is comprised of a base 12 to which extension arms 14 and 15 suspended by support 16 are attached. A substrate saw blade 18 is attached to a spindle or hub 20 which is rotatably attached to the extension arm 15. The blade 18 may be secured to the hub 20 and extension arm 15 by a threaded nut 21 or other means of attachment known in the art. The substrate saw 10 also includes a translatable substrate table 22 movably attached in both X and Y directions (as indicated by arrows in drawing FIGS. 1 and 2) to the base 12. The table 22 used to hold the chuck 500, 500' (See drawing FIGS. 7, 8, 13, and 14) of the present invention thereon by any suitable attachment apparatus. Alternatively, blade 18 may be translatable relative to the table 22 to achieve the same relative X-Y movement of the blade 18 to the table 22. A substrate 24 to be scribed or sawed at 24' may be securely mounted to the table 22. As used herein, the term "saw" includes scribing of a substrate, the resulting scribe line not completely extending through the substrate. Further, the term "substrate" includes any suitable type substrate to which a semiconductor device may be attached, such as FR-4 board, silicon substrate, traditional full semiconductor wafers of silicon, gallium arsenide, or indium phosphide and other semiconductor materials, partial wafers, and other equivalent structures known in the art wherein a semiconductor material table or substrate is present. For example, so-called silicon-on-insulator or "SOI" structures, wherein silicon is carried on a glass, ceramic or sapphire ("SOS") base, or other such structures as known in the art, are encompassed by the term "substrate" as used herein. Likewise, "semiconductor substrate" may be used to identify wafers and other structures to be singulated into smaller elements.

Please amend paragraph [0031] as follows:

[0031] Referring now to drawing FIG. 3, another illustrated embodiment of a substrate saw 30 is shown having two laterally spaced blades 32 and 34 with their centers of rotation "C" in substantial parallel alignment transverse to the planes of the blades. For a rectangular substrate or a conventional substantially circular silicon semiconductor wafer each having a

plurality of similarly configured semiconductor devices 42 (not shown) or integrated circuits 42 (not shown) arranged in evenly spaced rows and columns, the blades can be spaced a distance "D" substantially equal to the distance between adjacent areas 44 or streets 44 (not shown) defining the space between each integrated circuit 42. In addition, if the areas 44 of a substrate 40 or streets 44 of wafer 40 are too closely spaced for side-by-side blades 32 and 34 to cut along adjacent streets, the blades 32 and 34 can be spaced a distance "D" substantially equal to the distance between two or more areas 44 or streets 44. For example, a first pass of the blades 32 and 34 could cut along streets 44a and 44c and a second pass along streets 44b and 44d. The blades could then be indexed to cut the next series of areas or streets and the process repeated as desired number of times. If, however, the semiconductor devices 42 of a substrate 40 or integrated circuits 42 of a wafer 52 have various sizes, such as integrated circuits 50 and 51 as illustrated in drawing FIG. 9, at least one blade 34 is laterally translatable relative to the other blade 32 to cut along the areas or streets 44, such as street 56, separating the variously sized integrated circuits 50. The blade 34 may be variously translatable by a stepper motor 36 having a lead screw 38 or by other devices known in the art, such as high precision gearing in combination with an electric motor or hydraulics, or other suitable mechanical drive and control assemblies. For a substrate 40 or wafer 52, the integrated circuits, such as integrated circuits 50 and 51, may be diced by setting the blades 32 and 34 to simultaneously cut along areas 58 or 59 (~~See~~ drawing FIG. ~~6~~ 6) streets 56 and 57, indexing the blades, setting them to a wider lateral spread and cutting along areas 56 or 57 or areas 58 and 59, indexing the blades while monitoring the same lateral spread or separation and cutting along streets 60 and 61, and then narrowing the blade spacing and indexing the blades and cutting along other areas (not shown) and streets 62 and 63. The substrate 40 or wafer 52 could then be rotated 90° and the blade separation and indexing process repeated for areas 58 or 59 or vice versa (~~See~~ drawing FIG. ~~6~~ 6) and streets 64 and 65, streets 66 and 67, and streets 68 and 69.

Please amend paragraph [0040] as follows:

[0040] Referring to drawing FIG. 7, illustrated in a top view is a dicing chuck 500 suitable for use with the table 22 of the substrate saw 10 and the substrate 40 illustrated in drawing FIGS. 5 and 6. The chuck 500 comprises a chuck table 502 having a shaft 528 (~~Fig.FIG.~~ 8) attached thereto for mounting on the table 22 using suitable apparatus, a plurality of cutting pedestals 504 having the desired spacing to mate with the semiconductor devices 42 of substrate 40 and connectors 306 of another side 302 of substrate 40, a pair of clamps 506 mounted on clamp pedestals 508 (see drawing FIG. 8), and one or more alignment pins 510, if desired, for aligning the substrate 40 on the chuck 500. Each cutting pedestal 504 includes a portion 512 having an aperture 514 therein for mating with the portion of the semiconductor device 42 on another side 302 thereof and portions 516 having a plurality of recessed areas 518 therein for mating with the connectors 306 in areas 308 (see drawing FIG. 6) of another side 302 of substrate 40. The aperture 514 in the cutting pedestal 504 may be connected to a source of vacuum (not shown) to help retain the semiconductor devices 42 on the cutting pedestal 504. The shape, size and spacing of the recessed areas 518 on each cutting pedestal 504 will vary with the type, size, and spacing of the connectors 306 of another side 302 of substrate 40. The clamps 506 mounted on clamp pedestals 508 may be secured thereto by any suitable type of retaining apparatus, such as a threaded member 520. The chuck 500 may be fabricated from any suitable material, such as metal commonly used for the dicing of substrates having semiconductor devices thereon.

Please amend paragraph [0041] as follows:

[0041] Referring to drawing FIG. 8, the chuck 500 illustrated in a side view. As shown, the apertures 514 in each cutting pedestal 504 has an aperture 522 connected to aperture 524 which, in turn, is connected to aperture 526 in the chuck shaft 528 to supply vacuum from a source of vacuum to each cutting pedestal 504. The shape, size, configuration, and layout of the apertures 522, 524, and 526 may be any suitable desired configuration to supply vacuum to each cutting pedestal 504. The alignment pins 510 mate with alignment apertures 43 in the substrate 40 (~~Seesee~~ drawing FIGS. 5 and ~~6~~ 6). The alignment pins 510 may be any desired

configuration, size, and shape to mate with any alignment aperture in substrate 40. The threaded member 520 may be any suitable type to retain the substrate clamps 506 on the clamp pedestals 508. The substrate clamps 506 may be of any suitable shape, size, and configuration to mate with portions of the substrate 40 to retain portions thereof on the cutting pedestals 504 and, if desired, on clamp pedestal 508.